REMARKS

Claims 1-4, and 6-8 are currently pending.

The Examiner has rejected the pending claims under 35 U.S.C. §112 (2nd ¶) and argues that the word "traces" renders the claims indefinite. Applicants respectfully traverse this formal ground for rejection. The word "traces" would be understood by one of ordinary skill in the pertinent art to mean very small amount of the catalytically active substance that can be present. The specification at page 6 provides a clear embodiment of the present invention and discloses one example of what is to be understood as a trace amount. In the circumstances, the Examiner's rejection is respectfully requested to be withdrawn since the term "traces" as used in Claim 1 would not be unclear to the ordinarily informed practioner.

On the merits, the Examiner has rejected the pending claims under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,542,640 (Clifford). The arguments advanced in support of this rejection are discussed on pages 2-3 of the Official Action, and not herein repeated.

Further, the Examiner has rejected Claim 7 under 35 U.S.C. §103(a) as obvious over Clifford in view of U.S. Patent No. 6,101,865 Meixner et al. The arguments in support of this rejection are discussed on page 4 of the Official Action, and not herein repeated.

Applicants respectfully traverse all of the grounds of rejection raised by the Examiner for the reasons discussed herein below.

Claim 1 is the sole independent claim, which if patentable over the Clifford reference (as argued herein) should result in all other claims, i.e. dependent Claims 2-4 and 6-8, being found patentable.

Claim 1 contains four essential features:

The gas sensor comprises a first and a second sensor range;

Catalytic means are present at the gas sensor;

The catalytic means are positioned inside of pores of the gas-sensitive material in the first sensor range; and

the two sensor ranges comprise different catalytic activities.

According to the present invention, a sensor range comprises pores in which firstly, the catalytic substance is present, and secondly the exhaust can arrive at or on the gas-sensitive layer directly in flowing past the sensor which is not interfered with by the covering of a total catalytic layer. Thus there is the advantage that the catalytic reaction takes place, and at the same time the sensor responds quickly. The structure of the application provides that in every case, a region of the sensor, as described above, is of porous conformation. The second region may be of exactly the same conformation, but with different catalytic activities to be observed.

With regard to the Clifford citation, it should be noted that it discloses an arrangement of several different sensors and at the same time a corresponding number of several target gases. Accordingly, a plurality of semiconductor gas sensors is contained therein. The entire disclosure of Clifford relates to the use of bundled semiconductor gas sensors. See column 7 from line 62 on, and column 8. The catalytic action may be

produced either by the gas-sensitive layer itself, by admixture of activating substances in the gas-sensitive layer, or a homogeneous semiconductive surface on the gas sensor. In this context, special reference should be made to the text in column 8, lines 11-14. Here it is noted how catalytically acting additives/substances can be accommodated on the gas sensor to develop their corresponding properties effectively. The possibilities offered are admixture with a sensitive material/"bulk composition", or the representation of a homogeneous semiconductive surface on the gas sensor. The first variant means that only a portion of the gas-sensitive substance and a portion of the catalytically active substance effectively come into contact with the target gas when the target gas is supplied. Therefore the total detection capacity and the total catalytic activity are only partially available. The second variant means the production of a homogeneous, i.e. closed, semiconductor layer with catalytic properties on the gas-sensitive layer, or the production of a gas-sensitive layer exhibiting catalytic activity as well. The latter case will always show a delayed generation of a sensor signal, since both a covering of the gas-sensitive layer is associated with a delay of the measurement signal, and so is the use of a simultaneously gas-sensitive and catalytically active layer.

Given the understanding of Clifford as described in the last paragraph which in contrast with the object underlying the present invention, namely making available a fast-reacting sensor, illuminates the difference between the present invention and the Clifford reference. Applicants use porous gas-sensitive material, with catalytic material being introduced into the pores accordingly in production. This has the result that a target gas present on the gas-sensitive material is detected immediately, with maximum available

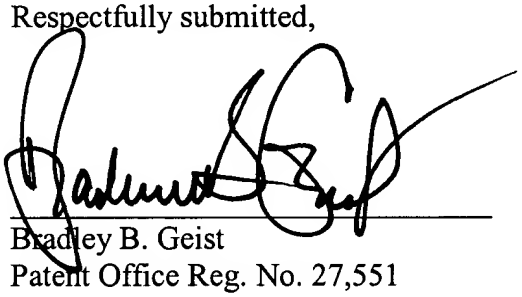
area, and at the same time the catalytic action of the catalyst present in the pores stands in readiness.

Thus, the feature of the instant Claim 1 that the first sensor region contains pores in which a catalytic substance is contained is at least one claim element not found in the Clifford reference; another is the combination with higher/lower/different catalytic activity as between the said first and second regions. These two features impart novelty to the present invention and are believed to overcome the Examiner's rejection under §102(b).

With the regard to Meixner, Applicants note that in Meixner an oxygen sensor is disclosed, although essentially protected from corrosion by protective layers. In Meixner, platinum electrodes 2 are applied to a substrate 1, and on this in turn the sensitive layer 3. In the passage cited by the Examiner in column 3 top, under porous layers only one porous protective layer 4 appears, lying on top of the sensitive layer or a porous silicone oxide layer. The porous strontium titanate layer mentioned in the Office Action, which would be a gas-sensitive layer, was not identified. However, in Meixner specifically, no porous gas-sensitive layer is disclosed, comprising at least two different sensor regions, where in at least one of these regions, a catalytically active substance is present inside the pores.

For all of the reasons advanced herein, Applicants respectfully request reconsideration and allowance of the pending claims. The Examiner is requested to call the undersigned on or before September 16, 2004, i.e. the due date for filing a Notice of Appeal or other appropriate paper to continue the prosecution of this application.

Respectfully submitted,



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